

Rogers, C.S. 1983. Sublethal and lethal effects of sediments applied to common Caribbean reef corals in the field. *Marine Pollution Bulletin* 14:10: 378-382.

Abstract:

Experiments to measure natural rates of sedimentation and to assess the tolerance of coral species to increased sedimentation were conducted at San Cristobal Reef, Puerto Rico. Sedimentation rates were measured over an 18 month period. Calcareous sediments were applied to colonies of *Montastraea annularis*, *Diploria strigosa*, *D. clivosa*, *Acropora palmata* and *A. cervicornis* in different frequencies and in different doses. Mean sedimentation rates from sediment traps were 9.6 plus or minus 2.4 (S.E.) mg cm⁻² multiplied by day⁻¹ at 10 cm above the bottom and 2.5 plus or minus 0.9 (S.E.) and 2.6 plus or minus 1.2 (S.E.) mg cm⁻² multiplied by day⁻¹ for two sets of traps at 50 cm above the bottom. Sediment application experiments indicated *A. palmata* was the least tolerant of the species tested. Although *A. cervicornis* and *D. strigosa* colonies were not significantly affected, single applications of 800 mg cm⁻² to *M. annularis* colonies and of 200 mg cm⁻² to *A. palmata* colonies caused death of underlying coral tissue. Algae colonized the smothered portions of these corals.